Report No.: FR770523-01AD

Project No: CB10612121

FCC Test Report

Equipment

: Wireless LAN Network Module

Brand Name

: Arcadyan

Model No.

: WN9711BTAAC-YA

FCC ID

: RAXWN9711

Standard

47 CFR FCC Part 15.247

Frequency

: 2400 MHz - 2483.5 MHz

Function

Point-to-multipoint; Point-to-point

Applicant

: Arcadyan Technology Corporation

No.8, Sec.2, Guangfu Rd., Hsinchu, 30071 Taiwan

Manufacturer

: Arcadyan Technology Corporation

No.8, Sec.2, Guangfu Rd., Hsinchu, 30071 Taiwan

The product sample received on Jun. 05, 2017 and completely tested on Dec. 13, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONALINC., the test report shall not be reproduced except in full.

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Summary of Test Result

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	Conformance Test Specifications					
Report Clause	Ref. Std. Clause	Description	Limit	Result		
1.1.2	15.203	Antenna Requirement	FCC 15.203	Complied		
3.1	15.207	AC Power-line Conducted Emissions	FCC 15.207	Complied		
3.2	15.247(d)	Emissions in Restricted Frequency Bands	Restricted Bands: FCC 15.209	Complied		

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Revision History

Report No.	Version	Description	Issued Date
FR770523-01AD	Rev. 01	Initial issue of report	Dec. 22, 2017

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1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz) Bluetooth Mode		Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

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Band Mode		BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1	1TX

Note:

- Bluetooth LE uses a GFSK (1Mbps) modulation for DSSS.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2, 3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

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1.1.2 Antenna Information

Set	Ant.	Brand	Model Name	Antenna Type	Connector	Gain	(dBi)	
Set	Ant.	Dianu	Woder Name	Antenna Type	Connector	2.4GHz	5GHz	
1	1	ACON	AEMEE-10000	Dipole Antenna	Reversed-SMA	3.24	4.54	
1	2	ACON	AEMEE-10000	Dipole Antenna	Reversed-SMA	3.24	4.54	
Set	Ant.	Brand	Model Name	Antenna Type	Connector	Gain	(dBi)	
Set	AIII.	Dianu	Woder Name	Antenna Type	Connector	2.4GHz	5GHz	
2	3	ACON	AEP6P-100009	PIFA Antenna	I-PEX	3.15	3.15	
	4	ACON	AEP6P-100010	PIFA Antenna	I-PEX	2.30	3.15	

Dipole			Cable	Cable Lo	ble Loss (dB) Tr		True Gain (dBi)	
Cable	Brand	Model Name	Length (mm)	2.4GHz / BT	5GHz	2.4GHz / BT	5GHz	
1	ACON	AEC8P-1000000 (Gray) AEC8P-1000001 (Black)	30	0.08	0.12	3.16	4.42	
2	ACON	AEC8P-1000002 (Gray) AEC8P-1000003 (Black)	50	0.13	0.19	3.11	4.35	
3	ACON	AEC8P-1000004 (Gray) AEC8P-1000005 (Black)	70	0.19	0.27	3.05	4.27	
4	ACON	AEC8P-1000006 (Gray) AEC8P-1000007 (Black)	90	0.24	0.35	3.00	4.19	
5	ACON	AEC8P-1000008 (Gray) AEC8P-1000009 (Black)	120	0.32	0.46	2.92	4.08	
6	ACON	AEC8P-1000010 (Gray) AEC8P-1000011 (Black)	160	0.43	0.62	2.81	3.92	
7	ACON	AEC8P-1000012 (Gray) AEC8P-1000013 (Black)	200	0.54	0.77	2.70	3.77	
8	ACON	AEC8P-1000014 (Gray) AEC8P-1000015 (Black)	240	0.64	0.93	2.60	3.61	
9	ACON	AEC8P-1000016 (Gray) AEC8P-1000017 (Black)	280	0.75	1.08	2.49	3.46	
10	ACON	AEC8P-1000018 (Gray) AEC8P-1000019 (Black)	320	0.86	1.24	2.38	3.30	
11	ACON	AEC8P-1000020 (Gray) AEC8P-1000021 (Black)	360	0.96	1.39	2.28	3.15	
12	ACON	AEC8P-1000022 (Gray) AEC8P-1000023 (Black)	400	1.07	1.54	2.17	3.00	

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Dipole		Cable		Cable Lo	oss (dB)	True Gain (dBi)	
Cable	Brand	Model Name	Length (mm)	2.4GHz / BT	5GHz	2.4GHz / BT	5GHz
13	ACON	AEC8P-1000024 (Gray) AEC8P-1000025 (Black)	450	1.21	1.74	2.03	2.80
14	ACON	AEC8P-1000026 (Gray) AEC8P-1000027 (Black)	500	1.34	1.93	1.90	2.61
DIEA			Cable		True Ga	ain (dBi)	
PIFA Cable	Brand	Model Name	Length (mm)	2.4GH	z/BT	5G	Hz
15	ACON	AEP6P-100009 (Black)	300	3.	15	3.15	
13	ACCIN	AEP6P-100010 (Gray)	400	2.3	30	3.15	

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Note: The EUT has two radios, Radio 1 supports WLAN 2.4GHz, WLAN 5GHz and Bluetooth function, Radio 2 supports WLAN 5GHz function only.

The EUT has two sets of antenna and there are two antennas for each set.

Dipole Antenna collocate with 14 set cable selling, only the higher gain antenna "cable 1" was tested and recorded in the report.

PIFA Antenna collocate with 1 set cable selling.

For Radio 1 (WLAN 2.4GHz, WLAN 5GHz and Bluetooth):

For IEEE 802.11a/b/g/n/ac mode (1TX/1RX):

Dipole Antenna: Only Ant. 1 (Port 1) can be used as transmitting/receiving antenna.

PIFA Antenna: Only Ant. 3 (Port 1) can be used as transmitting/receiving antenna.

For Radio 2 (WLAN 5GHz):

For IEEE 802.11a/n/ac mode (1TX/1RX):

Dipole Antenna: Only Ant. 2 (Port 1) can be used as transmitting/receiving antenna.

PIFA Antenna: Only Ant. 4 (Port 1) can be used as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	0.626	2.034	391.25u	3k

1.1.4 EUT Operational Condition

EUT Power Type	From host system
----------------	------------------

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1.1.5 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR770523AD Below is the table for the change of the product with respect to the original one.

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	Modifications	Performance Checking	
		For Dipole Antenna necessary to evaluated as below:	
		1. Emissions in Restricted Frequency Bands Below 1GHz.	
		2. Emissions in Restricted Frequency Bands Above	
		1GHz for 2440 MHz only, and it is max power channel	
1.	Adding a CPU shielding frame.	of original test report. (The test results are based on	
2.	Adding a CPU shielding cover.	original output power to re-test.).	
3.	Adding a Thermal pad on CPU.	For PIFA Antenna necessary to evaluated as below:	
		AC Power-line Conducted Emissions.	
		Emissions in Restricted Frequency Bands.	
		3. Simultaneous Transmission Analysis - Radiated	
		Emission Co-location.	
		AC Power-line Conducted Emissions.	
4.	Adding one set PIFA antennas with	Emissions in Restricted Frequency Bands.	
	lower gain than the original certificate.	3. Simultaneous Transmission Analysis - Radiated	
		Emission Co-location.	
5.	Adding master mode in band 2~band 3	It describes and the self DE took	
	(5250~5350 MHz, 5470~5725 MHz).	It doesn't need to verify RF test.	

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1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

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- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 558074 D01 v04
- FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

	Testing Location					
	HWA YA	ADD	:	No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.		
		TEL	:	886-3-327-3456 FAX : 886-3-318-0055		
\boxtimes	JHUBEI	ADD	:	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.		
		TEL	:	886-3-656-9065 FAX : 886-3-656-9085		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH01-CB (below 1GHz)	Joy Tseng	23°C / 55%	Jul. 28, 2017, Nov. 23, 2017
Radiated	03CH01-CB (above1GHz)	Joy Tseng	23°C / 55%	Nov. 28, 2017~Dec. 13, 2017
AC Conduction	CO01-CB	Tony Chang	22°C / 52%	Nov. 27, 2017

Test site Designation No. TW0006 with FCC.

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%

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Test site registered number IC 4086D with Industry Canada.



2 Test Configuration of EUT

2.1 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests			
Tests Item	AC power-line conducted emissions		
Condition AC power-line conducted measurement for line and neutral			
Operating Mode Normal Link			
According to the original test report, Slave mode - Radio 1 (2.4GHz + Bluetooth) + Radio 2 (5GHz) has bee evaluated to be the worst case. So the measurement will follow this same test configuration.			
1 Slave mode - Radio 1 (2.4GHz + Bluetooth) + Radio 2 (5GHz) with PIFA antenna			

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The Waret Coop Made for Falleville & Conformation To 15				
The Worst Case Mode for Following Conformance Tests				
Tests Item Emissions in Restricted Frequency Bands				
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.			
Operating Mode < 1GHz	Normal Link			
	nal test report, EUT in Z axis AP Mode - Radio 1 (2.4GHz+Bluetooth)+ Radio 2 (5GHz) to be the worst case. So the measurement will follow this same test configuration.			
1	EUT in Z axis Slave Mode - Radio 1 (2.4GHz+Bluetooth)+ Radio 2 (5GHz) with Dipole antenna			
2	EUT in Z axis AP Mode - Radio 1 (2.4GHz+Bluetooth)+ Radio 2 (5GHz) with PIFA antenna			
Operating Mode > 1GHz	стх			
The EUT was performed at X axis, Y axis and Z axis position for Emissions in Restricted Frequency Bands above 1GHz test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.				
1	EUT in Z axis with Dipole antenna			
2 EUT in Z axis with PIFA antenna				

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The Worst Case Mode for Following Conformance Tests				
Tests Item	Tests Item Simultaneous Transmission Analysis - Radiated Emission Co-location			
Test Condition	Test Condition Radiated measurement			
Operating Mode	Normal Link			
1	EUT X axis - Radio 1 (2.4GHz + Bluetooth) + Radio 2 (5GHz) with PIFA antenna			
2	EUT Y axis - Radio 1 (2.4GHz + Bluetooth) + Radio 2 (5GHz) with PIFA antenna			
3	EUT Z axis - Radio 1 (2.4GHz + Bluetooth) + Radio 2 (5GHz) with PIFA antenna			
4 EUT X axis - Radio 1 (5GHz + Bluetooth) + Radio 2 (5GHz) with PIFA antenna				
5 EUT Y axis - Radio 1 (5GHz + Bluetooth) + Radio 2 (5GHz) with PIFA antenna				
6 EUT Z axis - Radio 1 (5GHz + Bluetooth) + Radio 2 (5GHz) with PIFA antenna				
For operating mode 2 and mode 5 are the worst case and it was record in this test report.				
Refer to Appendix D for Radiated Emission Co-location.				

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The Worst Case Mode for Following Conformance Tests			
Tests Item Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation			
Operating Mode			
1 Radio 1 (2.4GHz + Bluetooth) + Radio 2 (5GHz)			
2 Radio 1 (5GHz + Bluetooth) + Radio 2 (5GHz)			
Refer to Sporton Test Report No.: FA770523-01 for Co-location RF Exposure Evaluation.			

2.2 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

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2.3 Accessories

N/A

2.4 Support Equipment

For Test Site No: CO01-CB

101 10	Support Equipment					
No.	No. Equipment Brand Name Model Name FCC ID					
1	NB	DELL	E6430	DoC		
2	Bluetooth Speaker	MARUS	MSK06C-RD	DoC		
3	AP Router	ASUS	DSL-AC68U	DoC		
4	AP Router	Planex	GW-AP54SGX	KA220030603014-1		
5	Fixture	Arcadyan	WN9711BTAAC Test jig	N/A		

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For Test Site No: 03CH01-CB (below 1GHz)

	Support Equipment					
No.	o. Equipment Brand Name Model Name FCC ID					
1	NB	DELL	E4300	DoC		
2	NB*2	Apple	Mac Book	DoC		
3	3 Bluetooth Speaker MARUS MSK06C-RD DoC					
4	Fixture	Arcadyan	WN9711BTAAC Test jig	N/A		

For Test Site No: 03CH01-CB (above 1GHz)

	Support Equipment					
No.	No. Equipment Brand Name Model Name FCC ID					
1	NB	DELL	E4300	DoC		
2	Fixture	Arcadyan	WN9711BTAAC Test jig	N/A		

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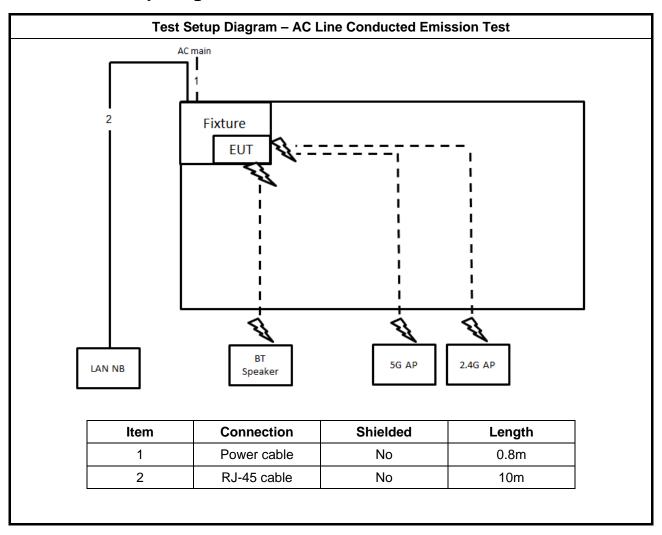
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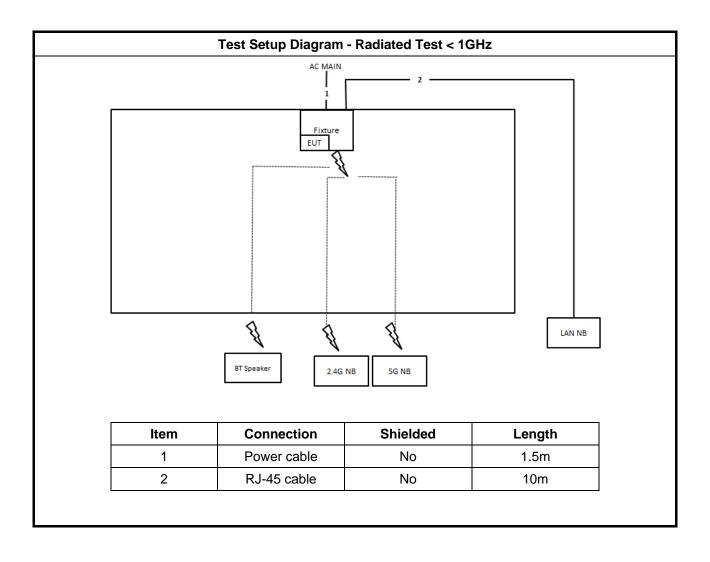
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2.5 Test Setup Diagram



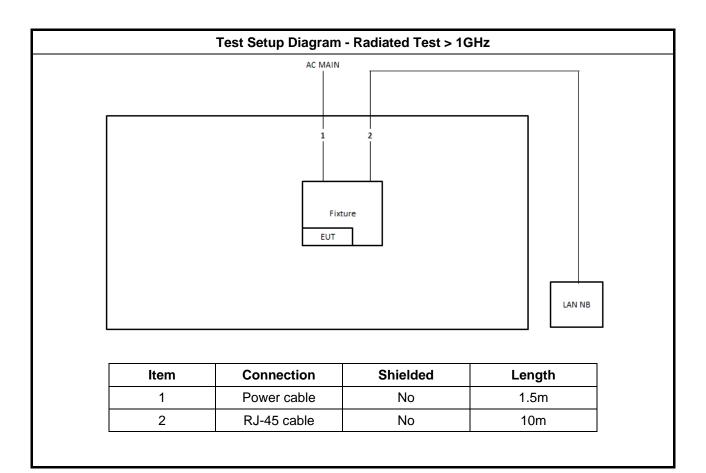
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3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit				
Frequency Emission (MHz) Quasi-Peak Average				
0.15-0.5	66 - 56 *	56 - 46 *		
0.5-5	56	46		
5-30 60 50				

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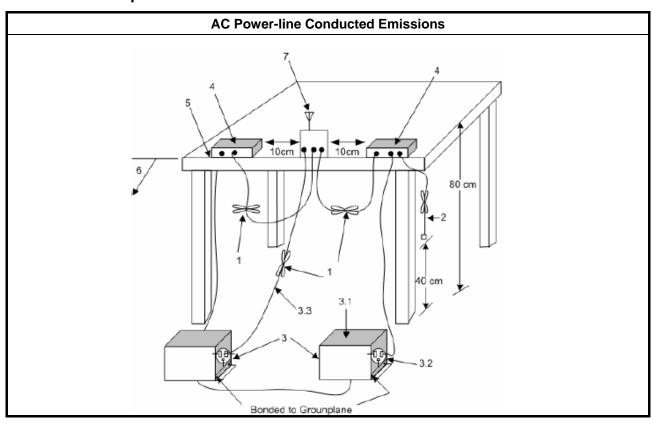
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method	
 Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions. 	

3.1.4 Test Setup



3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix B

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3.2 Emissions in Restricted Frequency Bands

3.2.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit					
Frequency Range (MHz) Field Strength (uV/m) Field Strength (dBuV/m) Measure Distar					
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300		
0.490~1.705	24000/F(kHz)	33.8 - 23	30		
1.705~30.0	30	29	30		
30~88	100	40	3		
88~216	150	43.5	3		
216~960	200	46	3		
Above 960	500	54	3		

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Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

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3.2.3 Test Procedures

		Test Method
•	The	average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
•		er as ANSI C63.10, clause 6.9.2.2 band-edge testing shall be performed at the lowest frequency and highest frequency channel within the allowed operating band.
•	For	the transmitter unwanted emissions shall be measured using following options below:
	•	Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.
		☐ Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥98%)
		Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
		Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T).
		☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
		Refer as FCC KDB 558074, clause 12.2.4 measurement procedure peak limit.
•	For	the transmitter band-edge emissions shall be measured using following options below:
	•	Refer as FCC KDB 558074 clause 13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
		Refer as FCC KDB 558074, clause 13.2 (ANSI C63.10, clause 6.9.3) for marker-delta method for band-edge measurements.
	•	Refer as FCC KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
•	For	conducted and cabinet radiation measurement, refer as FCC KDB 558074, clause 12.2.2.
	•	For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
	•	For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

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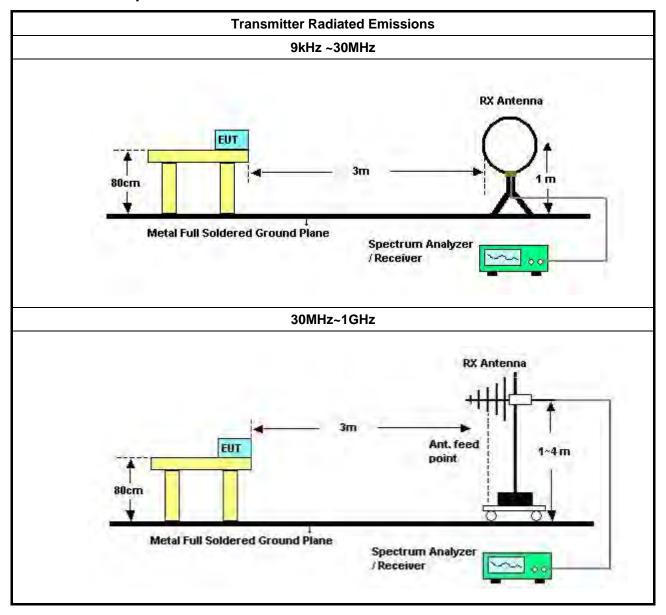
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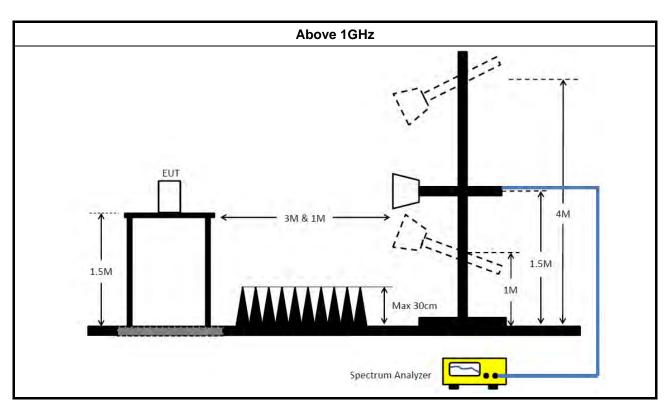


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Test Setup 3.2.4



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3.2.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.2.6 Transmitter Radiated Unwanted Emissions

Refer as Appendix C

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4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 23, 2017	Jan. 22, 2018	Conduction (CO01-CB)
LISN	LISN F.C.C. FCC-LISN-50- 16-2		04083	150kHz ~ 100MHz	Dec. 14, 2016	Dec. 13, 2017	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 21, 2016	Dec. 20, 2017	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 23, 2017	May 22, 2018	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2016	Aug. 29, 2017	Radiation (03CH01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2017	Aug. 29, 2018	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 20, 2017	Nov. 19, 2018	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 05, 2017	Jul. 04, 2018	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2017	May 01, 2018	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 16, 2017	Jan. 15, 2018	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 10, 2017	Jul. 09, 2018	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 22, 2016	Nov. 21, 2017	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 23, 2017	Nov. 22, 2018	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 06, 2017	May 05, 2018	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)
RF Cable-low	Cable-low Woken Low Cable-16+17 N/A		N/A	30 MHz ~ 1 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	F Cable-high Woken High Cable-16 N/A		N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)

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Report No.: FR770523-01AD



FCC Test Report

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Mar. 15, 2018*	Radiation (03CH01-CB)

Report No.: FR770523-01AD

Note: Calibration Interval of instruments listed above is one year.

N.C.R. means Non-Calibration required.

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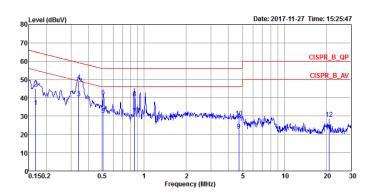
 FAX: 886-3-3270973
 Issued Date
 : Dec. 22, 2017

[&]quot;*" Calibration Interval of instruments listed above is two years.



AC Power-line Conducted Emissions Result

AC Power-line Conducted Emissions Result									
Operating Mode	1	Power Phase Neutral							
Operating Function	Normal Link								



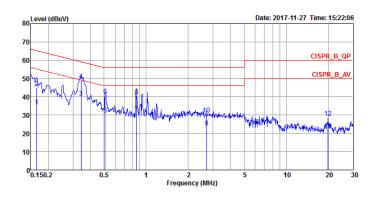
			0ver	Limit	Read	LISN	Cable		
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
	0.4677	25 07	20.04	FF 00	24 02	10 10	0.45	•	NEUTDAL
1	0.1677	35.07	-20.01	55.08	24.82	10.10	0.15	Average	NEUTRAL
2	0.1677	45.16	-19.92	65.08	34.91	10.10	0.15	QP	NEUTRAL
3	0.3410	39.91	-9.27	49.18	29.68	10.19	0.04	Average	NEUTRAL
4	0.3410	49.13	-10.05	59.18	38.90	10.19	0.04	QP	NEUTRAL
5	0.5101	30.74	-15.26	46.00	20.46	10.22	0.06	Average	NEUTRAL
6	0.5101	40.87	-15.13	56.00	30.59	10.22	0.06	QP	NEUTRAL
7	0.8528	30.66	-15.34	46.00	20.40	10.10	0.16	Average	NEUTRAL
8	0.8528	39.92	-16.08	56.00	29.66	10.10	0.16	QP	NEUTRAL
9	4.7464	22.24	-23.76	46.00	12.14	9.99	0.11	Average	NEUTRAL
10	4.7464	29.32	-26.68	56.00	19.22	9.99	0.11	QP	NEUTRAL
11	20.9243	21.80	-28.20	50.00	11.23	10.36	0.21	Average	NEUTRAL
12	20.9243	28.66	-31.34	60.00	18.09	10.36	0.21	QP	NEUTRAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



AC Power-line Conducted Emissions Result

AC Power-line Conducted Emissions Result									
Operating Mode	1	Power Phase Line							
Operating Function	Normal Link								

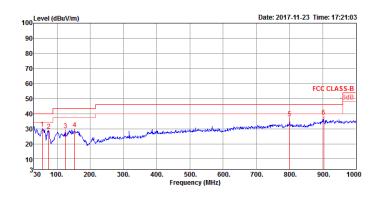


	Frea	Level	Over Limit	Limit	Read	LISN Factor	Cable	Remark	Pol/Phase
	11 24	Level	LIMIC	LINE	Level	ractor	2033	Kellidi K	101/111836
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1650	34.85	-20.36	55.21	24.70	10.00	0.15	Average	LINE
2	0.1650	44.87	-20.34	65.21	34.72	10.00	0.15	QP	LINE
3	0.3428	39.70	-9.43	49.13	29.72	9.94	0.04	Average	LINE
4	0.3428	49.03	-10.10	59.13	39.05	9.94	0.04	QP	LINE
5	0.5101	30.52	-15.48	46.00	20.51	9.95	0.06	Average	LINE
6	0.5101	40.63	-15.37	56.00	30.62	9.95	0.06	QP	LINE
7	0.8528	30.94	-15.06	46.00	20.82	9.96	0.16	Average	LINE
8	0.8528	40.49	-15.51	56.00	30.37	9.96	0.16	QP	LINE
9	2.7068	23.22	-22.78	46.00	13.10	9.96	0.16	Average	LINE
10	2.7068	30.52	-25.48	56.00	20.40	9.96	0.16	QP	LINE
11	19.8445	21.68	-28.32	50.00	11.14	10.34	0.20	Average	LINE
12	19.8445	28.51	-31.49	60.00	17.97	10.34	0.20	QP	LINE

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



RSE below 1GHz Result									
Operating Mode	1	Horizontal							
Operating Function	Normal Link								

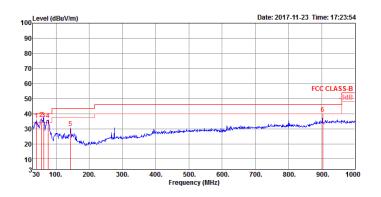


Freq	Level								1/205	Remark	Pol/Phase
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
56.19	30.07	40.00	-9.93	47.72	1.29	13.47	32.41	150	79	Peak	HORIZONTAL
74.62	28.70	40.00	-11.30	47.28	0.84	12.98	32.40	200	336	Peak	HORIZONTAL
125.06	28.99	43.50	-14.51	41.60	1.15	18.60	32.36	150	358	Peak	HORIZONTAL
153.19	29.69	43.50	-13.81	44.21	1.05	16.77	32.34	100	2	Peak	HORIZONTAL
800.18	37.09	46.00	-8.91	39.10	3.51	26.60	32.12	100	187	Peak	HORIZONTAL
903.00	38.24	46.00	-7.76	37.57	4.72	27.53	31.58	150	302	Peak	HORIZONTAL
	56.19 74.62 125.06 153.19 800.18	MHz dBuV/m 56.19 30.07 74.62 28.70 125.06 28.99 153.19 29.69 800.18 37.09	Freq Level Line MHz dBuV/m dBuV/m 56.19 30.07 40.00 74.62 28.70 40.00 125.06 28.99 43.50 153.19 29.69 43.50 800.18 37.09 46.00	Freq Level Line Limit MHz dBuV/m dBuV/m dB	Freq Level Line Limit Level MHz dBuV/m dBuV/m dB dBuV	Freq Level Line Limit Level Loss MHz dBuV/m dBuV/m dB dBuV dB	Freq Level Line Limit Level Loss Factor MHz dBuV/m dBuV/m dB dBuV dB dB/m 56.19 30.07 40.00 -9.93 47.72 1.29 13.47 74.62 28.70 40.00 -11.30 47.28 0.84 12.98 125.06 28.99 43.50 -14.51 41.60 1.15 18.60 153.19 29.69 43.50 -13.81 44.21 1.05 16.77 800.18 37.09 46.00 -8.91 39.10 3.51 26.60	Freq Level Line Limit Level Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB dB/m dB	Freq Level Lime Limit Level Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB dB/m dB cm 56.19 30.07 40.00 -9.93 47.72 1.29 13.47 32.41 150 74.62 28.70 40.00 -11.30 47.28 0.84 12.98 32.40 200 125.06 28.99 43.50 -14.51 41.60 1.15 18.60 32.36 150 153.19 29.69 43.50 -13.81 44.21 1.05 16.77 32.34 100 800.18 37.09 46.00 -8.91 39.10 3.51 26.60 32.12 100	MHz dBuV/m dBuV/m dB dBuV dB dB/m dB cm deg 56.19 30.07 40.00 -9.93 47.72 1.29 13.47 32.41 150 79 74.62 28.70 40.00 -9.130 47.28 0.84 12.98 32.40 200 336 125.06 28.99 43.50 -14.51 41.60 1.15 18.60 32.36 150 358 153.19 29.69 43.50 -13.81 44.21 1.05 16.77 32.34 100 2 800.18 37.09 46.00 -8.91 39.10 3.51 26.60 32.12 100 187	Freq Level Limit Level Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB dB/m dB cm deg 56.19 30.07 40.00 -9.93 47.72 1.29 13.47 32.41 150 79 Peak 74.62 28.70 40.00 -11.30 47.28 0.84 12.98 32.40 200 336 Peak 125.06 28.99 43.50 -14.51 41.60 1.15 18.60 32.36 150 358 Peak 153.19 29.69 43.50 -13.81 44.21 1.05 16.77 32.34 100 2 Peak 800.18 37.09 46.00 -8.91 39.10 3.51 26.60 32.12 100 187 Peak

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

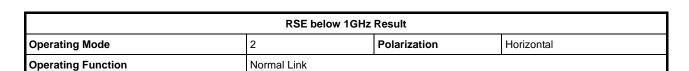


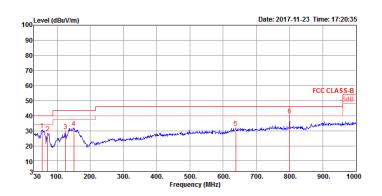
RSE below 1GHz Result									
Operating Mode	1	Polarization	Vertical						
Operating Function	Normal Link								



	Freq	Level		Over Limit					A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	40.67	36.09	40.00	-3.91	47.94	1.19	19.39	32.43	100	22	Peak	VERTICAL
2	56.19	36.82	40.00	-3.18	54.47	1.29	13.47	32.41	100	116	Peak	VERTICAL
3	62.98	36.45	40.00	-3.55	55.00	1.19	12.67	32.41	100	116	QP	VERTICAL
4	75.59	35.95	40.00	-4.05	54.44	0.85	13.06	32.40	100	317	Peak	VERTICAL
5	143.49	30.52	43.50	-12.98	44.30	1.14	17.42	32.34	100	335	Peak	VERTICAL
6	903.00	39.93	46.00	-6.07	39.26	4.72	27.53	31.58	300	220	Peak	VERTICAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)





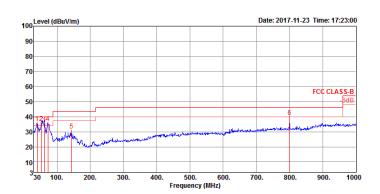
	Freq	Level		Over Limit				Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
-	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	54.25	30.56	40.00	-9.44	47.79	1.32	13.87	32.42	100	299	Peak	HORIZONTAL
2	71.71	28.41	40.00	-11.59	47.17	0.89	12.75	32.40	200	301	Peak	HORIZONTAL
3	125.06	29.93	43.50	-13.57	42.54	1.15	18.60	32.36	150	204	Peak	HORIZONTAL
4	150.28	32.12	43.50	-11.38	46.50	1.08	16.88	32.34	150	54	Peak	HORIZONTAL
5	638.19	32.08	46.00	-13.92	35.95	3.22	25.29	32.38	100	282	Peak	HORIZONTAL
6	800.18	40.27	46.00	-5.73	42.28	3.51	26.60	32.12	100	183	Peak	HORIZONTAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

Operating Function



Normal Link



	Freq	Level	Limit					Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Cm	deg		
1	39.70	36.01	40.00	-3.99	47.34	1.15	19.95	32.43	100	224	Peak	VERTICAL
2	53.28	36.00	40.00	-4.00	53.00	1.35	14.07	32.42	100	0	QP	VERTICAL
3	61.04	35.51	40.00	-4.49	54.00	1.23	12.69	32.41	100	282	QP	VERTICAL
4	72.68	35.91	40.00	-4.09	54.62	0.88	12.81	32.40	100	242	Peak	VERTICAL
5	143.49	30.89	43.50	-12.61	44.67	1.14	17.42	32.34	100	291	Peak	VERTICAL
6	800.18	39.92	46.00	-6.08	41.93	3.51	26.60	32.12	100	72	Peak	VERTICAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



RSE TX above 1GHz Result

Appendix C.2

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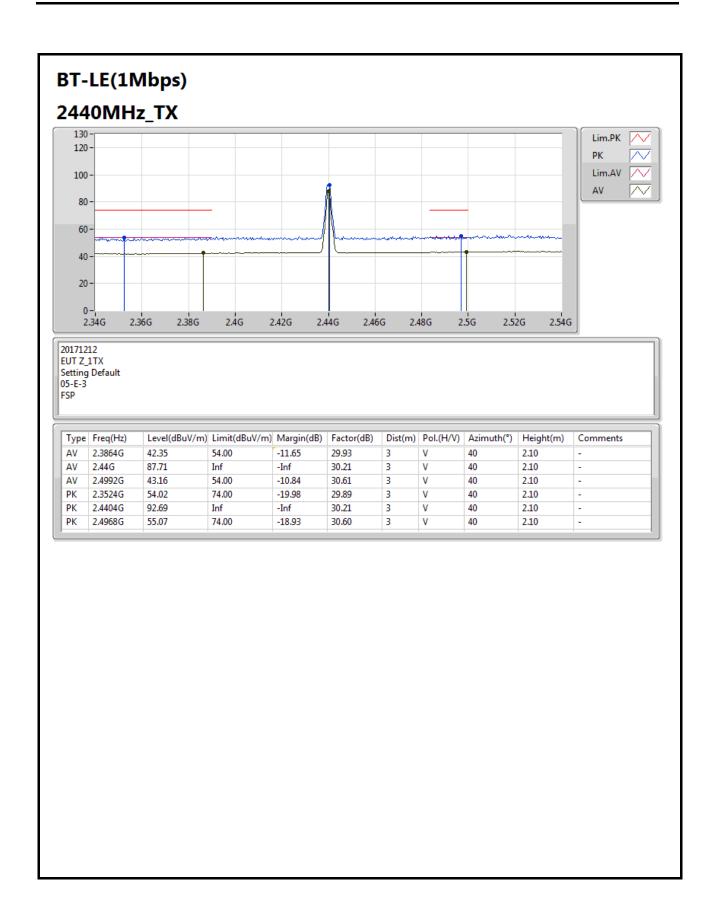
For Dipole Antenna Summary

Mode	Result	Туре	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-		-	-	-		-	-
2.4-2.4835GHz	Pass	AV	2.4952G	43.25	54.00	-10.75	30.59	3	Н	202	1.77	-

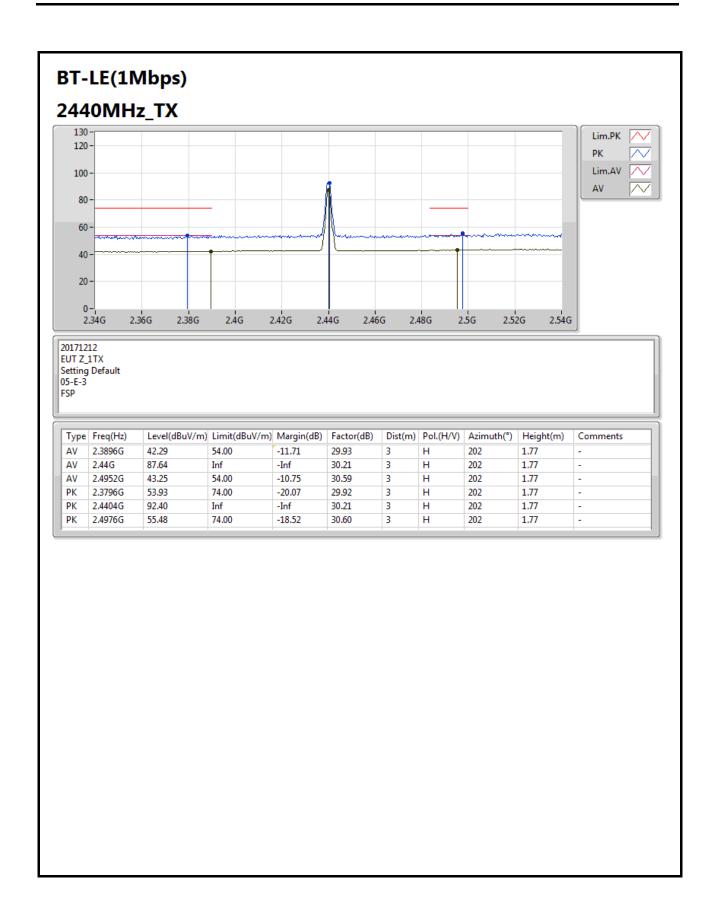
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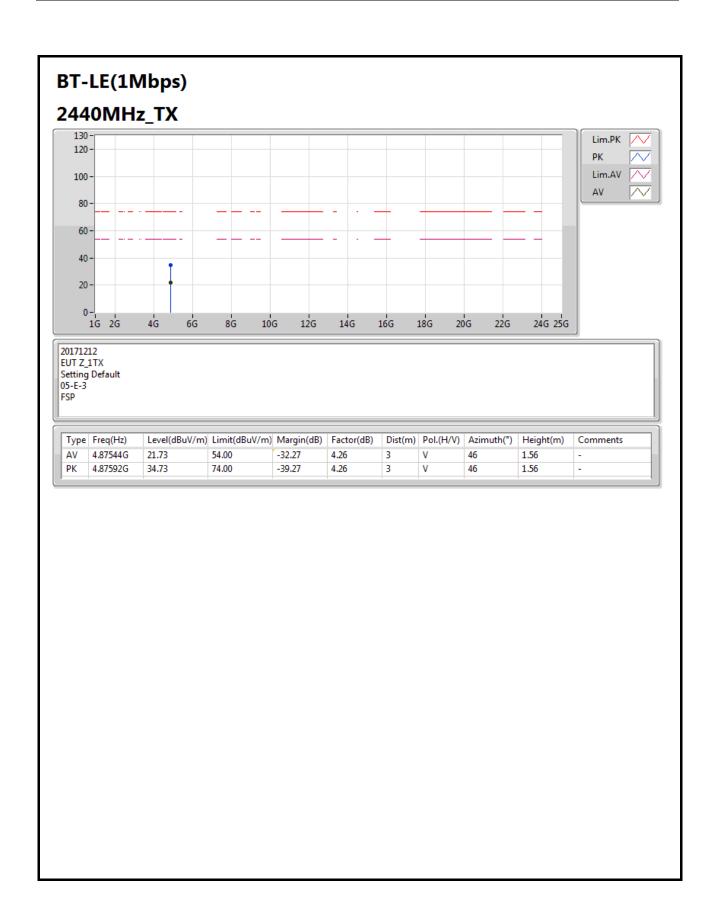






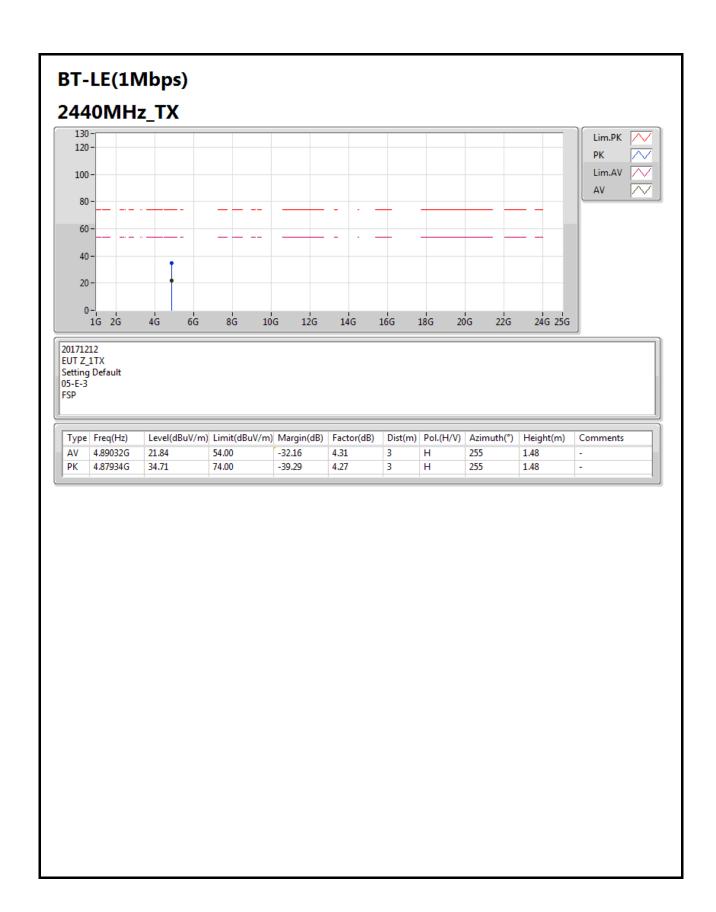
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RSE TX above 1GHz Result

Appendix C.2

For PIFA Antenna Summary

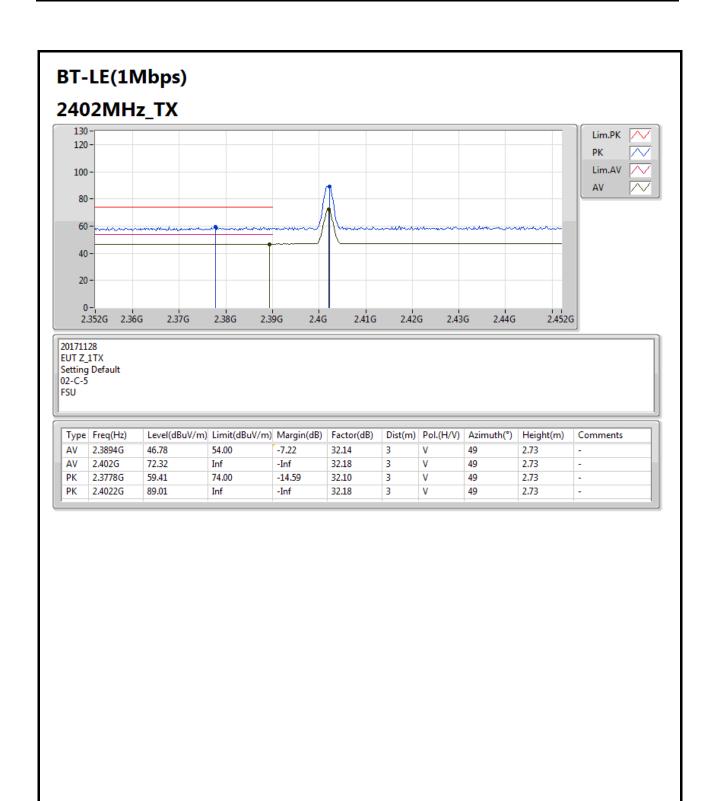
Mode	Result	Туре	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-		-			-		-
2.4-2.4835GHz	Pass	AV	2.5G	47.41	54.00	-6.59	32.50	3	V	161	1.50	-

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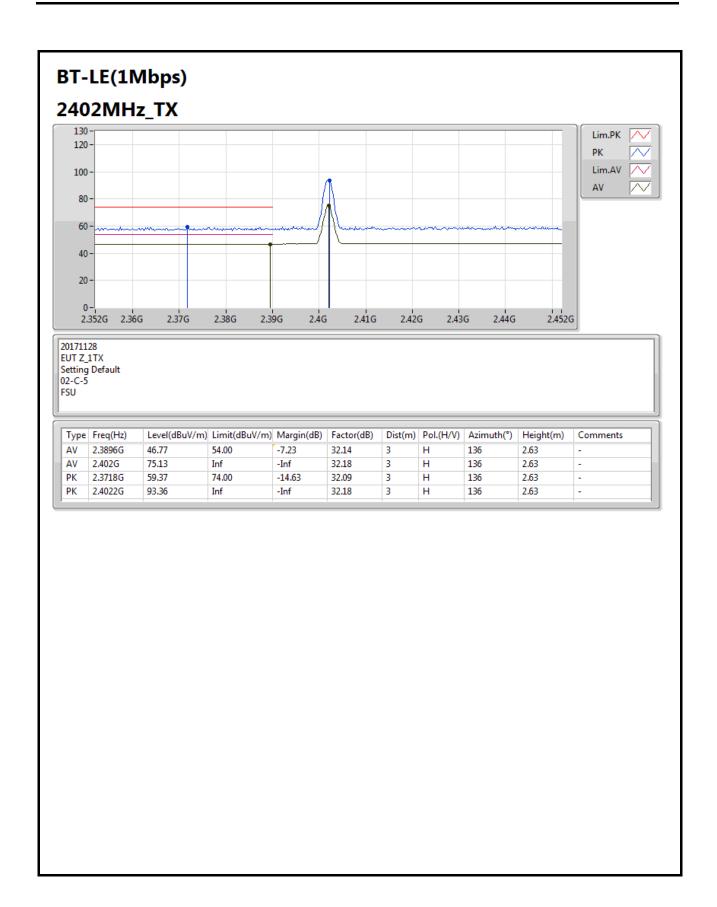
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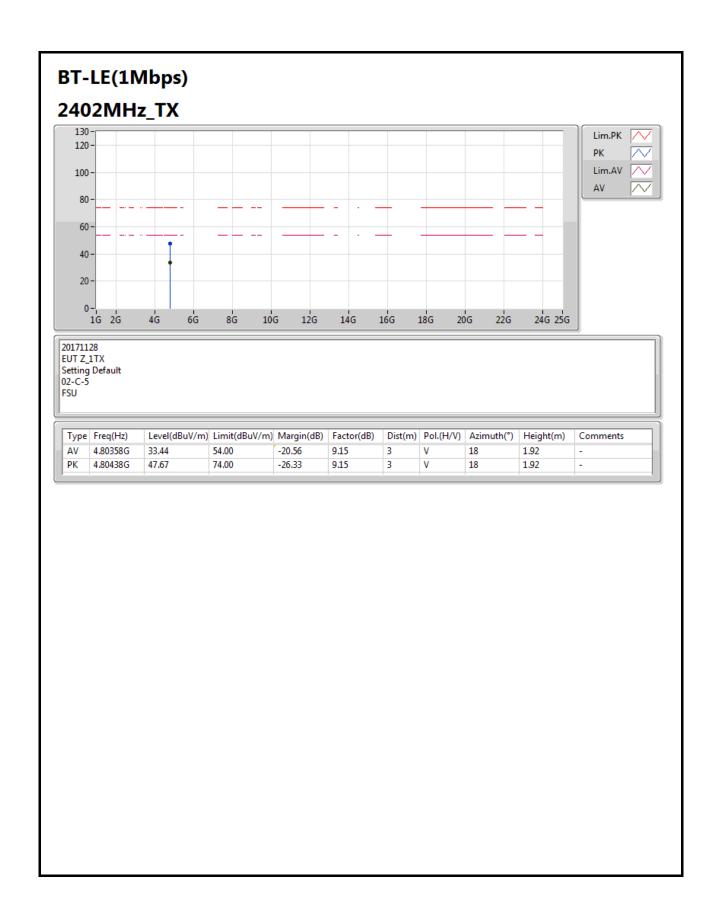
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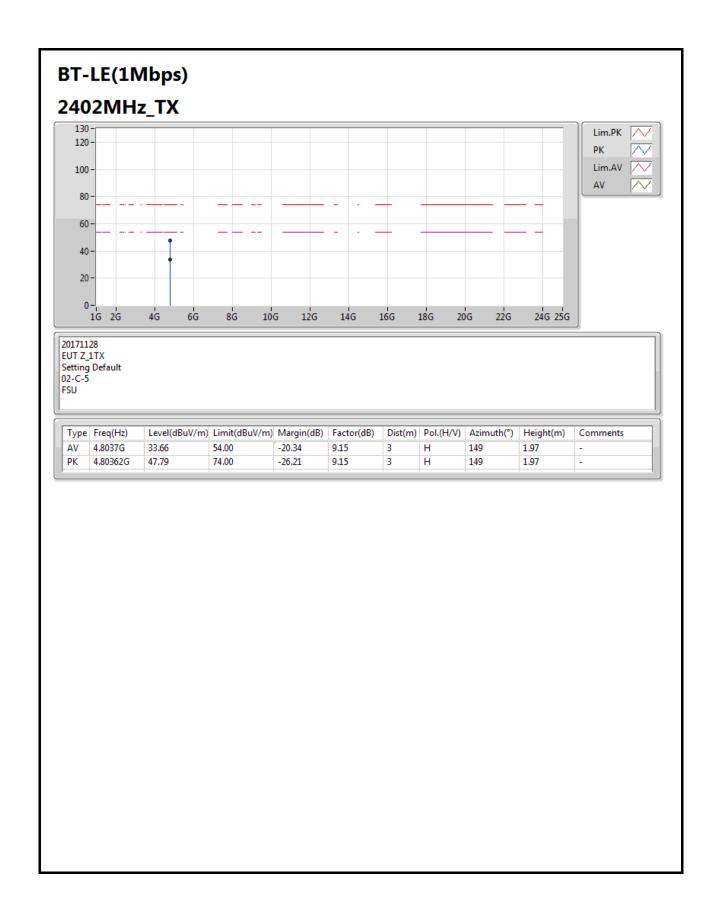
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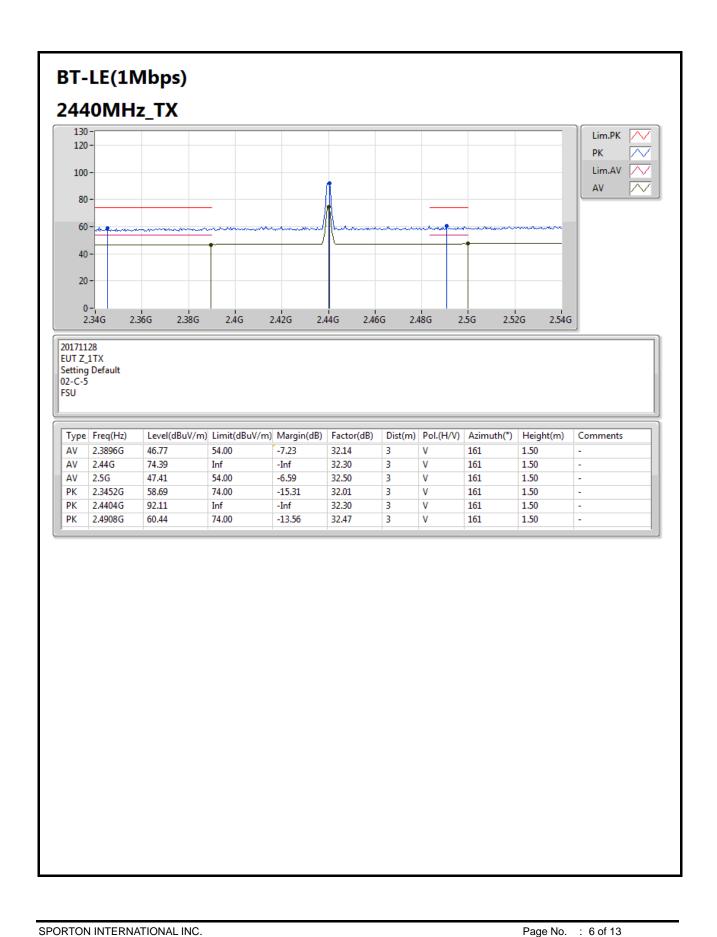


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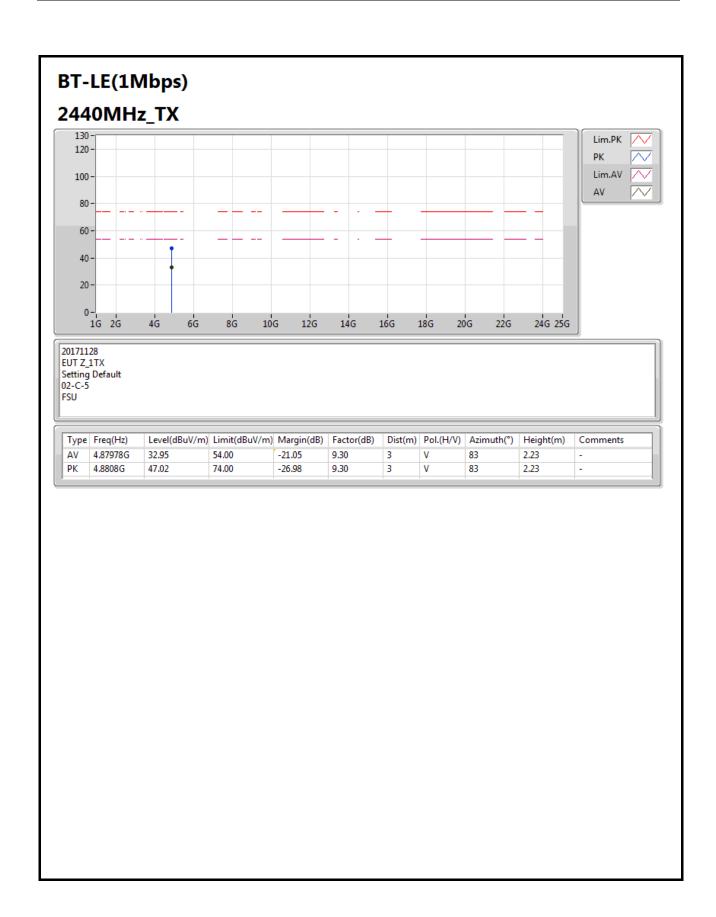
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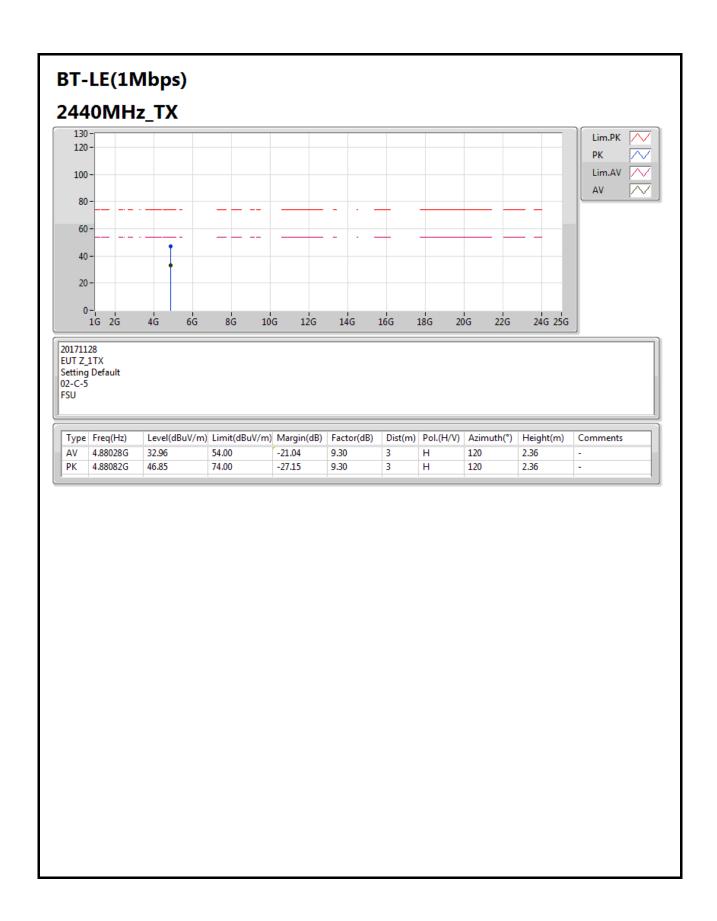
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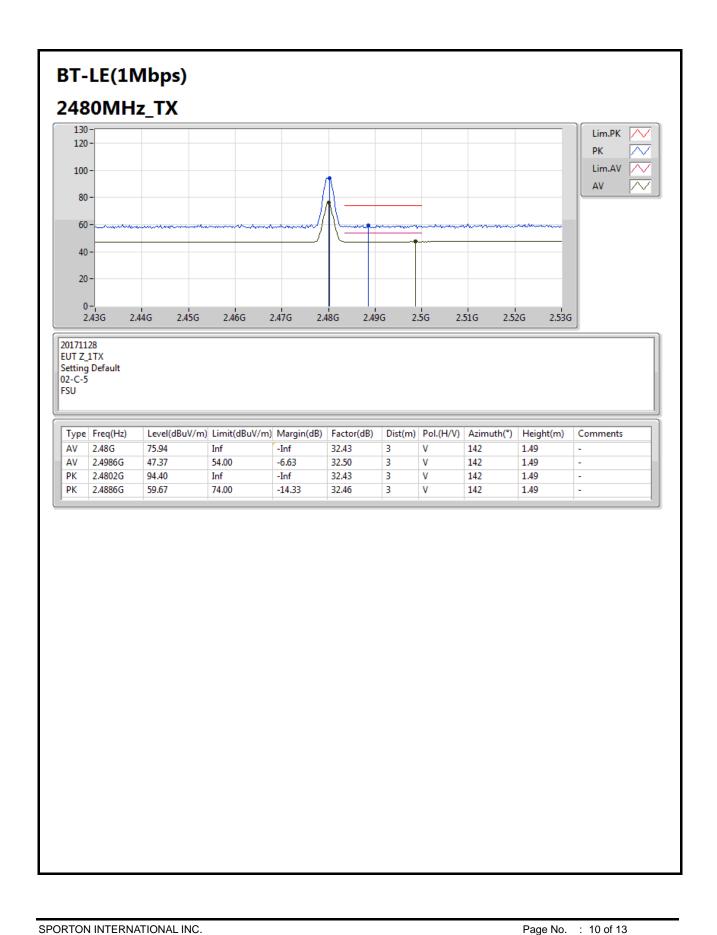


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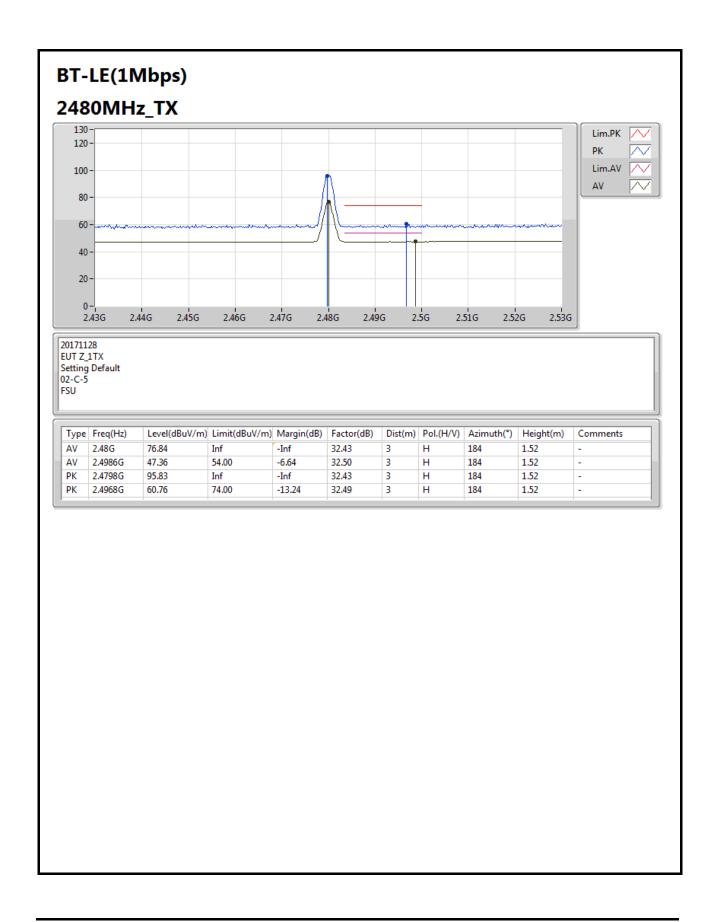






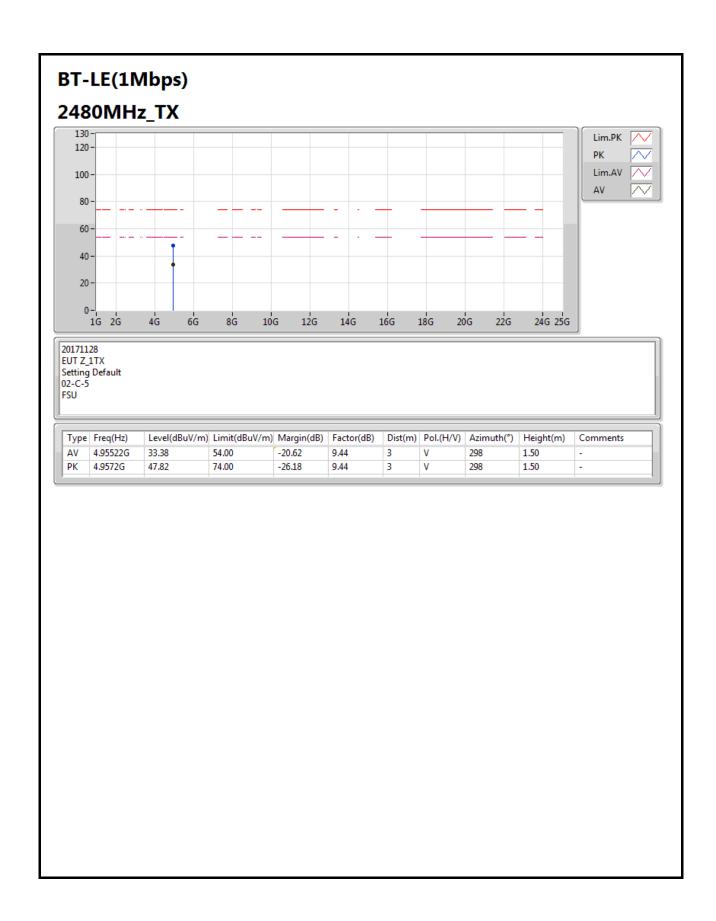
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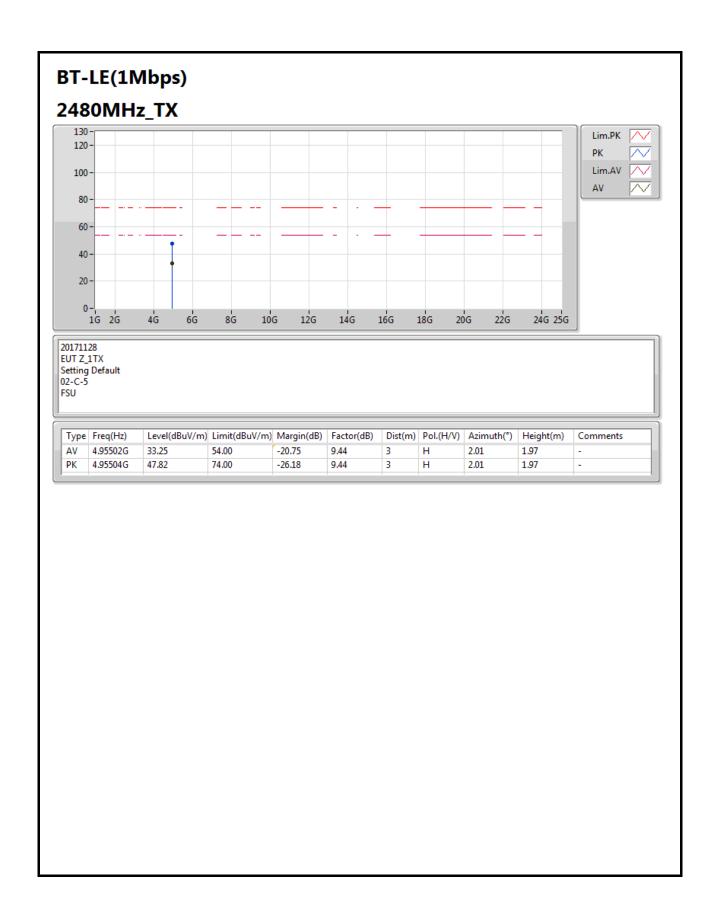
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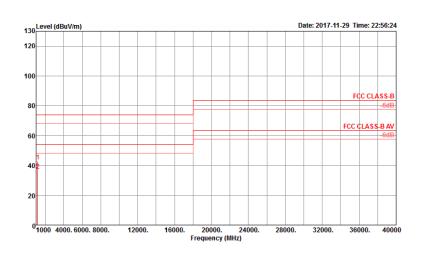
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RSE Co-location Result								
Operating Mode	2	Polarization	Horizontal					
Operating Function	Normal Link							

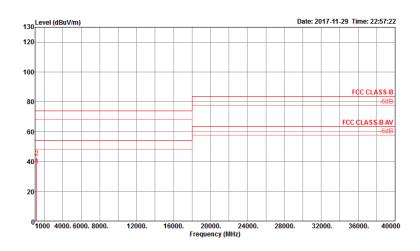


	Freq	Level		Limit						1/205	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1198.31	42.61	74.00	-31.39	48.69	3.81	24.43	34.32	110	124	Peak	HORIZONTAL
2	1201.27	36.63	54.00	-17.37	42.71	3.81	24.43	34.32	110	124	Average	HORIZONTAL

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RSE Co-location Result								
Operating Mode	2	Polarization	Vertical					
Operating Function	Normal Link							

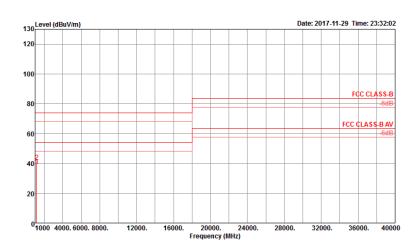


	Freq	Level		Limit						1/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1200.62								120		Average	VERTICAL
2	1202.34	42.76	74.00	-31.24	48.84	3.80	24.44	34.32	120	88	Peak	VERTICAL

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RSE Co-location Result								
Operating Mode	5	Polarization	Horizontal					
Operating Function	Normal Link							

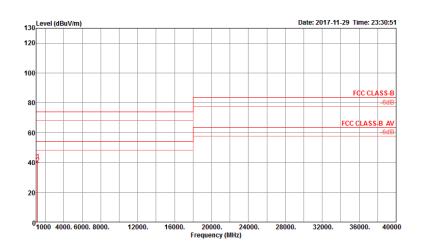


	Freq	Level		Limit						1/205	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1198.45	38.40	54.00	-15.60	44.48	3.81	24.43	34.32	138	106	Average	HORIZONTAL
2	1199.63	41.44	74.00	-32.56	47.52	3.81	24.43	34.32	138	106	Peak	HORIZONTAL

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RSE Co-location Result								
Operating Mode	5	Polarization	Vertical					
Operating Function	Normal Link							



	Freq	Level	Limit Line					Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1198.39	41.33	74.00	-32.67	47.41	3.81	24.43	34.32	120	103	Peak	VERTICAL
2	1199.99	38.61	54.00	-15.39	44.69	3.81	24.43	34.32	120	103	Average	VERTICAL

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